

[RELIABLE TRANSPORT LAYER PROTOCOL IN LOW PERFORMANCE 8-BIT MICROCONTROLLERS]

Abstract of Disclosure

A reliable communication protocol RUDP is provided to transfer data between two systems connected in a network. Working over the unreliable UDP transport layer protocol, the RUDP protocol adds an acknowledging mechanism to otherwise unreliable UDP packets. Contrary to the TCP transport layer protocol, which establishes a connection before any data transfer, the RUDP is used to transfer short amounts of information or messages, so a connectionless communication is used. In a connectionless context the complexity of the encoding-decoding algorithm and the amount of memory consumed by the protocol is reduced. Such characteristics makes the RUDP protocol suitable for its implementation in systems with limited memory and speed, like low processing power 8-bit microcontrollers. Furthermore, by programming the RUDP protocol over the UDP protocol, its implementation in a personal computer can be made with common programming tools.

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Figures

Figure 1: A line graph showing the relationship between the number of figures and the number of pages. The x-axis is labeled 'Number of Figures' and ranges from 0 to 10. The y-axis is labeled 'Number of Pages' and ranges from 0 to 10. The data points are (0, 0), (1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6), (7, 7), (8, 8), (9, 9), and (10, 10). The line is a straight line with a slope of 1.